

2010.0 XF (X250), 303-01

ENGINE - V8 S/C 5.0L PETROL

SPECIFICATIONS

Engine Data

ENGINE DESCRIPTION	ENGINE CAPACITY	MAXIMUM ENGINE TORQUE (EEC) (SAE)	MAXIMUM ENGINE POWER (EEC) (SAE)	COMPRESSION RATIO	BORE	STROKE
<ul style="list-style-type: none">• 90° "Vee"• 8 Cylinder• 32 Valves	4.999 ccm	625 Nm at 2.500 - 5.500 RPM	375 kW at 6.000 - 6.500 RPM	9.5 ± 0.50	92.509 ± 0.009 mm	93 ± 0.1 mm

Engine Firing Order

STANDARD	FIRING ORDER
ISO	1:2:7:3:4:5:6:8
DIN	1:5:4:2:6:3:7:8

Engine Valve Clearance (cold)

INTAKE VALVE	EXHAUST VALVE
0.20 ±0.02	0.25 ±0.02

Spark Plugs

SPECIFICATION	SPARK PLUG GAP
ILKR6C-10	1 mm

Lubricants, Fluids, Sealers and Adhesives

 **NOTE:**

When servicing or draining the engine oil, the 0w20 oil is compatible with 5w20. Any residue mix is acceptable.

DESCRIPTION	SPECIFICATION
Engine Oil - Vehicles built up to 2015	SAE 5W20 WSS-M2C925-A or SAE 0W20 STJLR.51.5122
Engine Oil - Vehicles built from 2015	SAE 0W20 STJLR.51.5122
Sealant	WSE-M4G323-A6
Core plug and stub pipe retainer	WSK-M2G349-A7
Jaguar Premium Cooling System Fluid	WSS-M97B44-D

Capacities

 **NOTE:**

For supercharged 5.0L engines.

DESCRIPTION	LITRES
Engine oil, initial fill	8.9
Engine oil, service fill with oil filter change	7.25
Engine oil, service fill without oil filter change	6.75

Capacities

 **NOTE:**

For naturally aspirated 5.0L engines.

DESCRIPTION	LITRES
Engine oil, initial fill	8.75
Engine oil, service fill with oil filter change	7.25
Engine oil, service fill without oil filter change	6.75

Cylinder Head and Valve Train

ITEM	SPECIFICATION
Cylinder head maximum permitted warp (flatness specification)	0.2 mm (0.008 in)
Valve guide inner diameter (mm)	5.51 ± 0.01
Intake valve effective length (mm) (tip to gauge line)	117.21 ± 0.1
Exhaust valve effective length (mm) (tip to gauge line)	94.39 ± 0.1
Valve stem to guide clearance intake diametrical (mm)	0.022 - 0.057
Valve stem to guide clearance exhaust diametrical (mm)	0.03 - 0.065
Valve head diameter intake (mm)	36 ± 0.1
Valve head diameter exhaust (mm)	30 ± 0.1
Intake valve face angle (degrees)	44.875 ± 0.125
Exhaust valve face angle (degrees)	44.875 ± 0.125
Valve stem diameter intake (mm)	5.4705 ± 0.0075
Valve stem diameter exhaust (mm)	5.4625 ± 0.0075
Valve spring free length (mm) - inlet	46.1
Valve spring free length (mm) - exhaust	46.1
Valve spring installed height (mm) - inlet	35.74
Valve spring installed height (mm) - exhaust	35.1
Camshaft lobe lift intake (mm)	10
Camshaft lobe lift exhaust (mm)	9.36
Camshaft journal to cylinder head bearing surface clearance diametrical (mm)	0.025 - 0.065
Camshaft journal diameter - all positions	26.965 ± 0.01

Bearing diameter - all positions	27.01 ± 0.01
Camshaft journal maximum run out limit (mm)	
Camshaft journals to end journals	0.03
Camshaft journals to adjacent journals	0.015
Camshaft journal maximum out of round (mm) - all journals	0.005

Torque Specification

NOTE:

A = Refer to procedure for correct torque sequence.

DESCRIPTION	NM	LB-FT	LB-IN
Engine cover mounting bolts	10	7	-
Accessory drive belt tensioner retaining bolt	40	30	-
Supercharger belt idler/tensioner bracket retaining bolts	25	18	-
Secondary drive belt idler retaining bolts	40	30	-
Power steering pump pulley retaining bolts	25	18	-
Power steering pump retaining bolts	25	18	-
Power steering pump bracket to engine retaining bolts	25	18	-
Generator retaining bolts	48	35	-
Starter motor retaining bolts	48	35	-
Air conditioning compressor retaining bolts	25	18	-
Engine mounting to engine mounting bracket retaining nuts	48	35	-
Engine mounting to subframe retaining nuts	63	46	-
Engine mounting bracket to engine retaining bolts	48	35	-
Crankshaft damper pulley retaining LH threaded bolt	200 + 270°	148 + 180°	-
Flexplate retaining bolts	45 +	33 +	-

	90°	90°	
Exhaust manifold heat shield retaining bolts	A	-	-
Exhaust manifold retaining bolts	A	-	-
Engine wiring harness bracket retaining bolts	10	7	-
Coolant outlet pipe	10	7	-
Intercooler retaining bolts	25	18	-
Intake manifold retaining bolts	25	18	-
Oil Cooler retaining bolts	13	10	-
Knock sensor (KS) retaining bolt	20	14	-
Ignition coil retaining bolts	8	-	71
Spark plugs	20	15	-
Fuel rail retaining bolts	A	-	-
High pressure fuel pipe retaining bolts	A	-	-
High pressure fuel pump retaining bolts	12	9	-
Oil filter housing assembly retaining bolts	12	9	-
Oil filter cap	28	21	-
Lifting eye bolts	25 + 90°	18 + 90°	-
Manifold absolute pressure and temperature (MAPT) sensor sensor retaining bolts	5	-	44
Coolant pump retaining bolts	12	9	-
Variable valve timing (VVT) oil control solenoid retaining bolts	10	7	-
Camshaft position (CMP) sensor retaining bolts	10	7	-
Camshaft cover retaining bolts	13	10	-
Front upper timing cover retaining bolts	12	9	-
Front lower timing cover retaining bolts	A	-	-
Engine rear cover retaining bolts	A	-	-
VVT to camshaft retaining bolts	32	24	-
Camshaft bearing caps retaining bolts	11	8	-

Primary timing chain fixed guide retaining bolts	12	9	-
Primary timing chain tensioner retaining bolts	12	9	-
Primary timing chain tensioner guide blade retaining bolts	25	18	-
Auxiliary chain tensioner guide retaining bolts	21	15	-
Auxiliary chain fixed guide retaining bolt	12	9	-
Oil pump sprocket retaining bolt	21	15	-
Cylinder head retaining bolts	A	-	-
Engine oil level (EOL) sensor retaining bolt	12	9	-
Oil pan to oil sump body retaining bolts	12	9	-
Oil sump body to engine retaining bolts	25	18	-
Oil pan drain plug	23	17	-
Oil transfer tube to Oil pan body retaining bolts	11	8	-
Oil pump to engine block retaining bolts	25	18	-
Pick-up pipe to oil pump retaining bolts	12	9	-
Windage tray retaining bolts	25	18	-
Piston cooling jet retaining bolts	12	9	-
Engine block coolant draining plug	50	37	-
Connecting Rod bolts			
Stage 1	10	7	-
Stage 2	50	37	-
Main bearing cap			
M10 bolt Stage 1	25	18	-
M10 bolt Stage 2	57 + 70°	42 + 70°	-
M8 bolt Stage 1	15	11	-
M8 bolt Stage 2	33 + 75°	24 + 75°	-

